

WHAT IS CLAIMED IS:

1. A wireless telecommunications system in which radio links are established between a base station, which is provided with an antenna whose directivity is capable of being controlled, and mobile stations, wherein when communication is performed with one of the mobile stations, a signal beam pointing substantially toward only said one mobile station is formed by said antenna to communicate with said mobile station;
- 10 said base station forming a broadcast signal beam, which is directed toward a plurality of the mobile stations, by said antenna when identical information is to be sent to the plurality of mobile stations, and sending this information by said broadcast signal beam.
- 15 2. The system according to claim 1, wherein said antenna is formed from a plurality of antenna elements, and said base station calculates coefficients for adjusting amplitude and phase of a transmission signal generated based upon said information, multiplies the transmission signal by these coefficients and transmits
- 20 the resulting signals from respective ones of the plurality of antenna elements of said antenna, thereby forming the broadcast signal beam.
- 25 3. The system according to claim 2, wherein said base station calculates the coefficients based upon reception signals received from the mobile stations.

4. The system according to claim 1, wherein said antenna is an adaptive array antenna.

~~5.~~ A base station for establishing radio links with mobile stations, wherein when communication is performed with one of the mobile stations, a signal beam pointing toward only said one mobile station is formed by an antenna, the directivity whereof is capable of being controlled, to communicate with said mobile station;

wherein when identical information is to be sent to a plurality of the mobile stations, a broadcast signal beam directed toward the plurality of mobile stations is formed by said antenna and said information is sent by said broadcast signal beam.

6. The base station according to claim 5, wherein said antenna is formed from a plurality of antenna elements, and coefficients for adjusting amplitude and phase of a transmission signal generated based upon said information are calculated, the transmission signal is multiplied by these coefficients and the resulting signals are transmitted from respective ones of the plurality of antenna elements of said antenna, thereby forming the broadcast signal beam.

7. The base station according to claim 6, wherein said base station calculates the coefficients based upon reception signals received from the mobile stations.

~~8.~~ A telecommunications method of establishing radio

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links between a base station, which is provided with an adaptive array antenna, and mobile stations, wherein when communication is performed with one of the mobile stations, a signal beam pointing toward only said one
5 mobile station is formed by said adaptive array antenna to communicate with said mobile station;

said base station forming a signal beam, which covers a plurality of the mobile stations simultaneously, by said adaptive array antenna when
10 identical information is to be sent to the plurality of mobile stations, and sending this information by said signal beam.

9. The method according to claim 8, wherein said base station calculates coefficients for adjusting amplitude
15 and phase of a transmission signal generated based upon said information multiplies the transmission signal by these coefficients and transmits the resulting signals from respective ones of a plurality of antenna elements of said adaptive array antenna, thereby forming the
20 signal beam.

10. The method according to claim 9, wherein said base station calculates the coefficients based upon reception signals received from the mobile stations.

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